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A radio talk by W. R. Beattie, Bureau of Plant Industry, delivered through Station WRC and 32 other stations associated with the National Broadcasting Company, October 30, 1929 at 1:10 p. m. Eastern Standard Time.

GREEN MANURING

Green manuring means turning under suitable crops to enrich the soil. Nature's method of improving the soil is to cover it with vegetation such as grass or weeds. Such crops may be turned under green or when ripe. Taken broadly, this would mean the turning under of weeds or the aftermath of a grass or clover crop, as well as a crop especially grown for turning under. Commonly, however, the term is used in a narrower sense and is applied to the turning under of a green crop grown especially for the purpose. The turning under of green manure crops adds organic matter and directly or indirectly adds nitrogen to the soil. Leguminous crops are most desirable for green manuring since they add to the soil nitrogen gathered from the air in addition to the organic matter which they carry. In addition to the nitrogen in the legumes which are turned under, a farther supply of nitrogen is fixed in the soil by the action of bacteria using the carbon in the organic matter as a source of energy. Turning under catch crops or winter-grown green crops is an economical and successful method of supplying nitrogen. Green manuring is one of the oldest methods used to maintain or to increase the productive capacity of the soil. In the United States the use of special green manure crops is much more general in the South than in the North. In the semi-arid region under dry farming methods, green manures are not used, but under irrigation green manures play an important part, especially in orchard culture in several Western States. A full discussion of the value and methods of handling green manure crops is found in Farmers' Bulletin 1250 F entitled "Green Manuring." This bulletin can be secured by addressing the U. S. Dept. of Agr. or the station to which you are listening.

EARTHWORMS

Earthworms frequently become a nuisance, especially in the soil of potted house plants and in flower beds. The worms are brought in with the soil and they multiply rapidly under certain conditions, and frequently injure the plants by tunneling through the fine root systems and causing the roots and soil to dry out. One of the most simple remedies is to place two cupfuls of unslaked stone lime in a pail, add small quantities of water and slake the lime to a thin paste. Add enough water to make two gallons, stir thoroughly and allow the white sediment to settle, then pour off the clear liquid into another vessel and use it for watering the plants.

Where it is desired to rid flower beds or lawns of earthworms a solution of bichloride of mercury - corrosive sublimate - and, which is a deadly poison, is generally used. This solution is prepared by dissolving one-half ounce of the bichloride of mercury in 3 to 4 gallons of water, using only glass or earthenware vessels when handling the solution. Drench infested soil with this solution and the earthworms quickly come to the surface and die. This solution must not be used where animals may pasture on the grass, nor should any of the solution be left standing in the vessels on account of the danger of some child or animal drinking it.

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Lime water should not be used for ridding the soil of earthworms where rhododendrons, azaleas and laurel, or any of the plants that require an acid soil are concerned.

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ASPARAGUS TOPS

We are frequently asked what should be done with asparagus tops after they are killed by frost. For the home garden where only a small quantity of asparagus is grown, we usually recommend that the tops be cut close to the ground, removed to a safe place and burned, as this will destroy rust spores and any disease that may be harboring on the asparagus plants. Clean off the asparagus bed and it will do no harm to give it a light mulching with well rotted manure, however, the usual recommendation is that the manure be applied in the summer time at the close of the cutting season. On commercial asparagus fields, it is customary to drag down the tops and cut them into the surface soil by means of a shallow running disk harrow. Depth gauges are placed on the disk harrow so that it cannot go deeply enough to injure the crowns. In cases where the tops are badly diseased, for example, with asparagus rust the tops should be burned.

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THE STALK BORER

Late in the season the garden stalk borer, a caterpillar with dark stripes running lengthwise of the body, bores into the stalks of such thick stemmed plants as dahlia, hollyhock, zinnia, cosmos, and peony, and causes the infested stalks to wither and die above the place where the culprit is at work. Because it is an internal feeder, there is no effective way of poisoning it with the usual arsenical sprays and dusts. Prevention is thus far the best way to deal with this pest. Clean cultivation and the burning of all stems, roots and plant remains which are likely to harbor overwintering eggs will destroy these and thus reduce the numbers of the borers for the next year. Cut, rake together and burn all weeds, especially giant ragweed, during May and June before the caterpillars contained in them have a chance to escape and migrate to garden plants.

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THE IRIS BORER

Among the several species of caterpillars that have the insidious habit of boring and tunnelling through the stalks, stems and roots of garden plants, the iris borer is one of the chief offenders. On iris, it confines its injury to the roots and crowns. A decay and blackening of the leaves is a good indication of its presence. The full-grown worm is usually pinkish with a brown head. It is about two inches long and has rows of black spots on the sides.

In the fall burn all debris and weeds. This kills any overwintering eggs present and forestalls reinfestation the following season. During early spring; spray new growth with lead arsenate, soap and nicotine-sulphate solution. When the rhizomes are lifted in the summer, cut out and burn all infested parts, and treat exposed areas with some disinfectant.